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(71) Applicant (for all designated States except US): **EXXON-MOBIL UPSTREAM RESEARCH COMPANY** [US/US]; P.O.Box 2189, Houston TX 77252.2189 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KAMINSKY, Robert, D.** [US/US]; 3749 Wakeforest Street, Houston, TX 77098 (US). **SYMINGTON, William, A.** [US/US]; 1714 Cottage Landing Lane, Houston, TX 77077 (US).

(74) Agents: **PLUMMER, Paul, J.** et al.; Exxonmobil Upstream Research Company, P.O. Box 2189, Houston, TX 77252.2189 (US).

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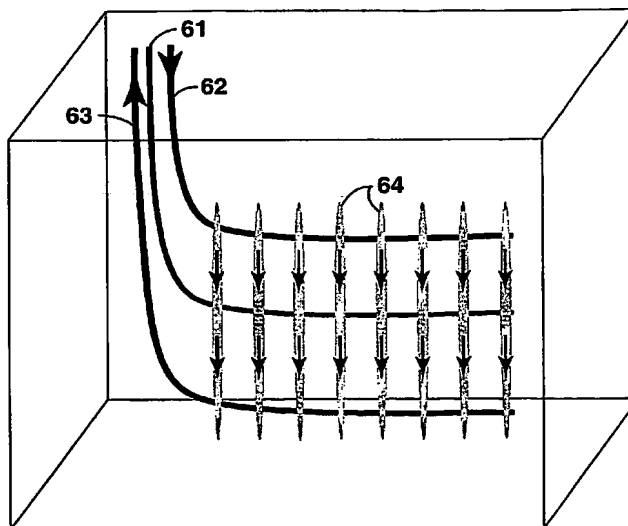
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**Declarations under Rule 4.17:**

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,

[Continued on next page]

(54) Title: **HYDROCARBON RECOVERY FROM IMPERMEABLE OIL SHALES**



(57) Abstract: An economic method for *in situ* maturing and production of oil shale or other deep-lying, impermeable resources containing immobile hydrocarbons. Vertical fractures are created using horizontal or vertical wells. The same or other wells are used to inject pressurized fluids heated to less than approximately 370° C, and to return the cooled fluid for reheating and recycling. The heat transferred to the oil shale gradually matures the kerogen to oil and gas as the temperature in the shale is brought up, and also promotes permeability within the shale in the form of small fractures sufficient to allow the shale to flow into the well fractures where the product is collected commingled with the heating fluid and separated out before the heating fluid is recycled.

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